

CHAPTER EIGHT – WATER SHORTAGE CONTINGENCY PLAN

8.1 Stages of Actions

LAW

10632. The plan shall provide an urban water shortage contingency analysis which includes each of the following elements which are within the authority of the urban water supplier:

10632. (a) Stages of action to be undertaken by the urban water supplier in response to water supply shortages, including up to a 50 percent reduction in water supply and an outline of specific water supply conditions which are applicable to each stage.

10632. (d) Additional, mandatory prohibitions against specific water use practices during water shortages, including, but not limited to, prohibiting the use of potable water for street cleaning.

10632. (e) Consumption reduction methods in the most restrictive stages. Each urban water supplier may use any type of consumption reduction methods in its water shortage contingency analysis that would reduce water use, are appropriate for its area, and have the ability to achieve a water use reduction consistent with up to a 50 percent reduction in water supply.

10632. (f) Penalties or charges for excessive use, where applicable.

8.1.1 WATER SHORTAGE STAGES AND REDUCTION OBJECTIVES

Supply capacity must be designed to meet MDD plus standby and thus meet demands through the planning horizon of 2030. The 2030 standby capacity, reserved for emergency conditions such as equipment malfunctions, is estimated at 86 percent (4,797gpm).¹² [Checklist #6, 10632(b)]

Water agencies relying solely on groundwater, such as the City, are much less likely to experience water shortages than those agencies relying primarily on surface water. As a good precautionary measure, this Chapter addresses water management tools and options that can be utilized to maximize resources and minimize the need to import water from other regions. [Checklist #5, §10620(f)]

8.1.2 WATER REDUCTION STAGE TRIGGERING MECHANISMS

Emergency response actions would take effect when the City Administrator declares that the City is unable to provide sufficient water supply to meet ordinary demands, to the extent that insufficient supplies would be available for human consumption, sanitation and fire protection. The declaration would be based on the City's judgment as to the degree of the immediate or future supply deficiency. Table 8.1-1 provides guidelines to assist in declaring water shortage stages. [Checklist #35, §10632(a)]

¹² Chapter 4, Reliability Planning

A combination of voluntary and mandatory water conservation measures would be used to reduce water usage in the event of water shortages.

Table 8.1-2 outlines reduction objectives for each stage.

**Table 8.1-1
Guide for Declaring Water Shortage Stages**

Stage	Condition
1	<ul style="list-style-type: none"> ▪ Two or more of municipal wells out of service due to noncompliance with drinking water standards or other emergencies ▪ Warm weather patterns typical of summer months
2	<ul style="list-style-type: none"> ▪ Prolonged periods of low water pressure ▪ Three or more of municipal wells out of service due to noncompliance with drinking water standards or other emergency ▪ Warm weather patterns typical of summer months
3	<ul style="list-style-type: none"> ▪ Prolonged periods of low water pressure ▪ Four or more of municipal wells out of service due to noncompliance with drinking water standards or other emergency ▪ Warm weather patterns typical of summer months

**Table 8.1-2
Water Usage Reduction Objectives**

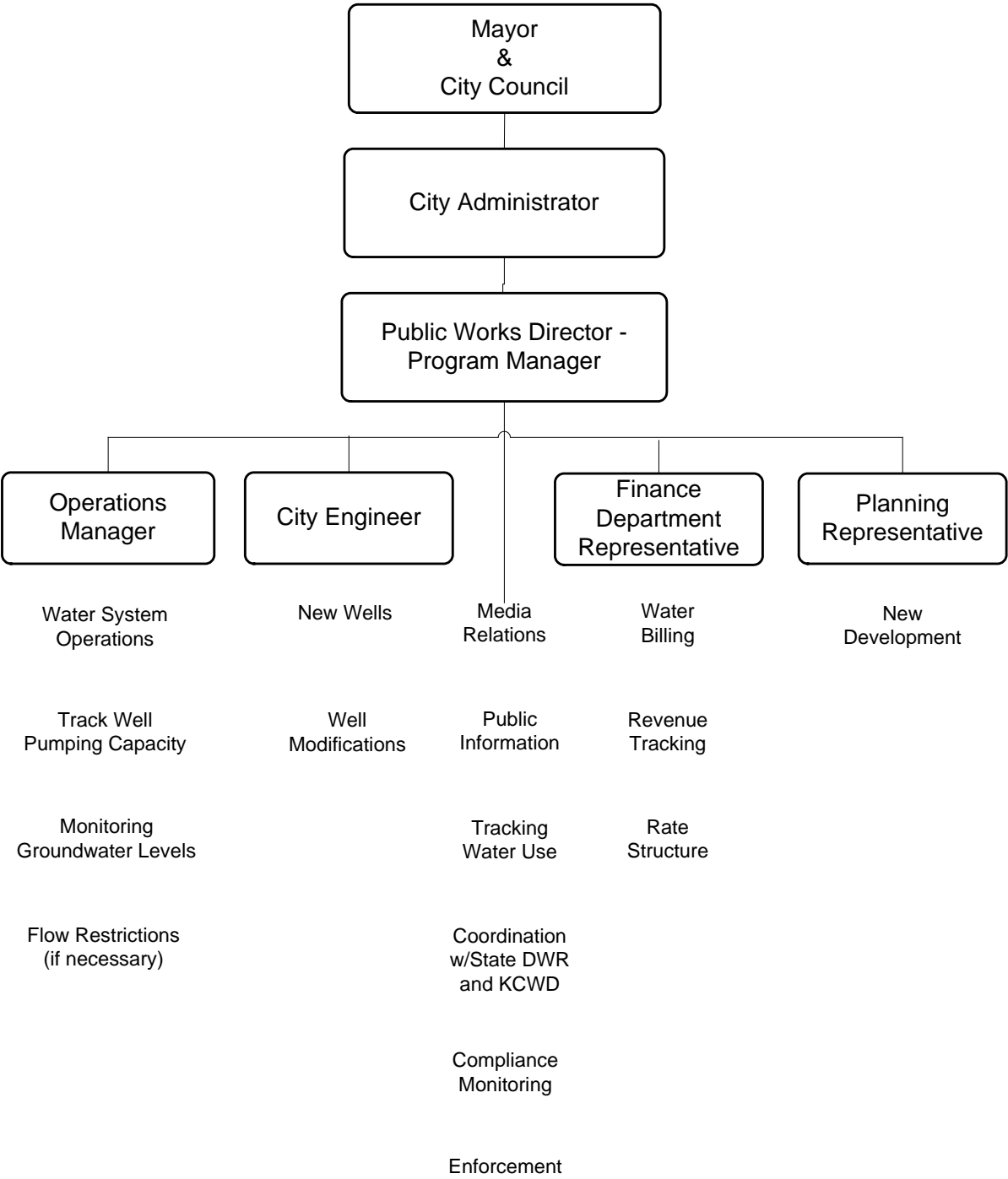
Stage	Description	Reduction Objective
1	(Minor Shortage Potential)	10-20% reduction in total water demands from baseline
2	(Moderate Shortage Potential)	20-35% reduction in total water demands from baseline
3	(Critical Shortage Potential)	35-50% reduction in total water demands from baseline

8.1.3 ADMINISTRATION OF WATER SHORTAGE PROGRAM

The administration of a water shortage program as described in this section would involve coordination among a number of City departments. It is anticipated that the Public Works Department would have primary responsibility for managing the program, since it is responsible for the City's water system. The Public Works Director would be the Program Manager and thus the primary coordinator of water shortage activities.

An appropriate organizational structure for a water shortage management team would be determined based on the actual situation. Figure 8.1-1 presents an example of a typical organization structure. Specific individuals would be designated to fill the identified roles. The City would not have to hire additional staff or outside contractors to implement the program.

Water Shortage Program Organizational Structure
Figure 8.1-1



8.1.4 ADMINISTRATIVE ELEMENTS OF WATER SHORTAGE PROGRAM

The major elements to be considered in administering and implementing the program would include: [Checklist #38 & #39, §§10632(d)&(e)]

- Identifying the City staff members to fill the key roles on the water shortage management team.
- Intensifying the public information program to provide comprehensive information on necessary actions that must be undertaken by the City and by the public. The scope of the public information program can be developed by reviewing published references, especially those published by DWR, and researching successful aspects of current programs conducted by neighboring water agencies.
- A public information hotline may be advisable to answer any questions regarding the program.
- Monitoring program effectiveness: Ongoing monitoring will be needed to track supply availability and actual water user reductions. This procedure will allow the City to continuously re-evaluate the situation and make informal decisions as to whether another reduction level is needed.
- Enforcing program requirements: For the 35 to 50 percent reduction program, enforcement of water use prohibitions and water use allocations would be important in achieving the program goals. Inspectors and enforcement personnel could be identified among City staff in the community on other business, such as police, park department staff, street maintenance staff and meter readers.
- Dealing with equity issues that might arise from the mandatory restrictions or higher water rates: Depending on the level of restriction, there may be a need to address concerns of individual customers who might have special conditions or extenuating circumstances and are unduly affected by the program. A procedure should be identified for dealing with such special requests and/or for reviewing specific accounts.
- Coordinating with other relevant local entities: Coordination, as needed, continues with the Kaweah Delta Water Conservation District, the principal water management agency near Exeter.
- Adjusting water rates: Revenues from water sales should be reviewed periodically to determine whether an increase in rates might be needed to cover revenue shortfalls due to the decrease in demand.
- Addressing new development proposals: During periods of severe water shortage, it may be necessary to impose additional requirements on new development to reduce new demand or to temporarily curtail new hook-ups.
- It is essential that the water shortage contingency plan, as a component of the Urban Water Management Plan, undergoes a formal public review process including a public

hearing. A thorough public review process will help minimize future objections when mandatory prohibitions are needed.

- Prohibit the use of potable water for street cleaning.

8.2 Water Shortage Contingency Ordinance or Resolution

LAW

10632. The plan shall provide an urban water shortage contingency analysis, which includes each of the following elements, which are within the authority of the urban water supplier.

10632. (h) A draft water shortage contingency resolution or ordinance.

A copy of the proposed adoption resolution is included in Appendix J. Thirty days prior to adoption, a notice of the public hearing will be in the local newspaper, notifying interested parties that the 2010 UWMP, including the Urban Water Shortage Contingency Plan (Contingency Plan) is available at various City facilities. The City will, after the hearing, submit the amended draft Plan to the Department of Water Resources for review and recommended corrections. The City Council will thereafter, at a properly noticed meeting, re-adopt the Plan, by resolution, as revised in accord with the recommended corrections. [Checklist #42, §10632(h)]

8.3 Mandatory Prohibitions on Water Wasting

Mandatory compliance measures enacted during a water shortage are more severe than voluntary measures, produce greater savings, and are less costly to the utility. The principal drawback to these measures is customer resentment if the measures are not seen as equitable. Therefore, such measures need to be accompanied by a good public relations campaign.

Mandatory measures may include:

- Ordinances making water waste illegal
- Ordinances controlling landscape irrigation
- Ordinances restricting non-irrigation outdoor water uses
- Prohibitions on new connections or the incorporation of new areas
- Rationing

Prohibitions on new development may conflict with other policies and needs. However, if existing customers are called upon to make sacrifices during a drought period, they may feel that water agencies should concentrate on fulfilling current obligations rather than taking on new customers. Such prohibitions may need to be considered in the event of a critical shortage, such as the 50 percent reduction program. If necessary, an offset program might be considered whereby developers demonstrate that they will implement measures to conserve at least as much water in the existing community as their new project will use. In some cases, a two to one offset might be required of the new development. The City currently enforces Municipal Code Section 13.08, Title 13. [Checklist #40, §10632(f)]

8.4 Revenue and Expenditure Impacts/Measures to Overcome Impacts

LAW

10632. The plan shall provide an urban water shortage contingency analysis which includes each of the following elements which are within the authority of the urban water supplier:

10632. (g) An analysis of the impacts of each of the actions and conditions described in subdivisions (a) to (f), inclusive, on the revenues and expenditures of the urban water supplier...

10632 (g) {An analysis of the impacts of each of the proposed measures to overcome those {revenue and expenditure impacts, such as the development of reserves and rate adjustments.

The majority of operating costs for most water agencies are fixed rather than a function of the amount of water sold. As a result, when significant conservation programs are undertaken, it is frequently necessary to raise water rates because the revenue generated is based on lower total consumption while the costs, and resulting revenue required, are basically fixed. Typically water rates need to be increased by the percentages listed in Table 8.4-1 when the indicated stages are implemented. However, reductions in water demands, especially peak demands, can delay the need to develop costly new water sources in growing communities. [Checklist #41, §10632(g)]

The City does not currently have an emergency fund but will consider establishing such a fund to mitigate the impacts of a water shortage. The fund would then be used to stabilize water rates during periods of water shortage or disasters affecting the water supplies. Excess water revenues collected as a result of shortage rate adjustments would be used to enhance the emergency fund.

Table 8.4-1
Guide for Rate Adjustment

Stage	Rate Adjustment
1	25 percent increase over pre-shortage rates
2	50 percent increase over pre-shortage rates
3	100 percent increase over pre-shortage rates
End of Water Shortage Emergency	15 percent increase over pre-shortage rates. (This rate increase is implemented based on historical information from communities that experienced water shortage and found that consumption rate (gpcd) does not return to pre-shortage levels. In anticipation of reduced sales, the City rates would be set for one year at 115 percent of the pre-shortage rates. This rate increase should be re-evaluated every two years.)

8.5 Actions during a Catastrophic Interruption

LAW

10632. The plan shall provide an urban water shortage contingency analysis, which includes each of the following elements, which are within the authority of the urban water supplier...

10632 (c) Actions to be undertaken by the urban supplier to prepare for, and implement during, a catastrophic interruption of water supplies including, but not limited to, a regional power outage, an earthquake, or other disaster.

During declared shortages, or when a shortage declaration appears imminent, the City Administrator will activate a water shortage response team. Shortages can be caused by an earthquake or other catastrophic interruption. The team includes: public utilities, water, fire, planning, health and emergency services. Other actions and procedures to be followed during catastrophic events will be developed. [Checklist #37, §10632(c)]

8.6 Reduction Measuring Mechanism

10632. The plan shall provide an urban water shortage contingency analysis which includes each of the following elements which are within the authority of the urban water supplier:

10632. (i) A mechanism for determining actual reductions in water use pursuant to the urban water shortage contingency analysis.

The City's water system is supplied by groundwater wells. Each well includes a flow-monitoring device that records the amount of water entering the City's distribution system. The City would use these devices to monitor actual citywide reductions in water use. [Checklist #43, §10632(g)]